


Exhibit 3



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Features: ☐ SNP ☐ CDD ☒ MGC ☒ HPRD ☐

☐ 1: [Z33381](#). Reports *T.reesei* (QM9414)...[gi:485863]

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LOCUSTRGE14BG1124 bpDNAlinearPLN 26-JUN-1995

DEFINITIONT.reesei (QM9414) gene for endo-1,4-beta-glucanase.

ACCESSIONZ33381

VERSIONZ33381.1GI:485863

KEYWORDSEND-1,4-BETA-GLUCANASE; endo-1,4-beta-glucanase V.

SOURCEHypocrea jecorina

ORGANISMHypocrea jecorina

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Hypocreomycetidae; Hypocreales; Hypocreaceae; Hypocrea.

REFERENCE1 (bases 1 to 1124)

AUTHORSALOHEIMO, A., HENRISAT, B., HOFFREN, A.M., TELEMAN, O. and PENTTILA, M.

TITLEA novel, small endoglucanase gene, egl5, from Trichoderma reesei isolated by expression in yeast

JOURNALLMOL. MICROBIOL. 13 (2), 219-228 (1994)

PUBMED7984103

REFERENCE2 (bases 1 to 1124)

AUTHORSALOHEIMO, A.

TITLEDirect Submission

JOURNALLSUBMITTED (05-MAY-1994) SALOHEIMO A., VTT BIOTECHNOLOGY AND FOOD RESEARCH, ESPOO, FINLAND

FEATURES

Location/Qualifiers

source1..1124

/organism="Hypocrea jecorina"

/mol_type="genomic DNA"

/db_xref="taxon:51453"

CDSjoin(76..144,205..270,333..926)

/codon_start=1

/product="endo-1,4-beta-glucanase V (EGV)"

/protein_id="CAA83846.1"

/db_xref="GI:485864"

/db_xref="GOA:P43317"

/db_xref="UniProtKB/Swiss-Prot:P43317"

/translation="MKATLVLGSLIVGAVSAYKATTRYDYGQEGACGCGSSSGAFPWQLGIGNGVYTAAGSQALFDTAGASWCGAGCGKCYQLTSTGQAPCSCGTGGAAGQSII VMVTNLCPNNGNAQWCPVVGVTNQYGYSHFDIMAQNEIFGDNVVVDFEPIACPQQAASDWGTCLCVGQQQETDPTPVLGNDTGSTPPGSSPPATSSSPSGGGQQTLYGQC GGAGW TGPTTCQAPGTCKVQNQWYSQCLP"

mat_peptidejoin(127..144,205..270,333..923)

/gene="egl5"

/product="endo-1,4-beta-glucanase V (EGV)"

/EC_number="3.2.1.4"

/function="hydrolysis of beta-1,4-linkages in cellulose and beta-glucan"

/note="Based on hydrophobic cluster analysis, EGV belongs

to family K of cellulases/xylanases and family 45 of glycosyl hydrolases together with EGB of Pseudomonas fluorescens and EGV of Humicola insolens."

exon

76..144

/number=1

gene

join(127..144,205..270,333..923)

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intron

145..204

/gene="egl5"

/number=1

/cons_splice=(5'site:NO, 3'site:YES)

exon

205..270

/gene="egl5"

/number=2

intron

271..332

/gene="egl5"

/number=2

exon

333..923

/gene="egl5"

/number=3

misc_binding

813..923

/gene="egl5"

/bound_moiety="fungal cellulose"

ORIGIN

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gttctcggct

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tccgcgtaca

aggccaccac

cacggcaagt

ctacatgctt

ccaggtcaca

acgtctgctc

181

aacaacctct

aaccgaaagg

ccagcgctac

tacgatgggc

aggaggggtg

ttgcggatgc

241

ggctcgagct

ccggcgcat

cccgtggcag

gtaaacattc

gaccttgtct

ggggcaaggg

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tacatcctct

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gccaagata

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